

DRAFT

Comments on Gradient Deposition modeling report

The stated purpose of the report is to evaluate soil recontamination data in Herculanum. In general Gradient has developed a theoretical model that describes the impact of emissions on soil lead concentrations at the site. It is not clear why this modeling was developed, as existing data supports the need to perform additional residential soil sampling and response actions at the site. Following are comments on the modeling report and current site conditions.

1. Gradient's model is flawed for the following reasons:
 - a. The model makes an assumption that is contradictory to existing data such as constant air emission rates for time periods.
 - b. The model does not consider the releases of lead concentrate related to vehicle traffic to and from the smelter facility, which is known to be a significant source of lead contamination found in residential surface soils at the site.
 - c. The recent and significant increase in soil lead concentration at specific locations during the past year are not supported or adequately explained by Gradient's model.
2. Based on historical sampling results and the multiple variables at the site such as climate, topography, and the variance in continuous smelter-related emission sources, it is not possible to reliably predict increases in surface soil lead concentrations at the site. Thus, the EPA has determined that the monitoring of lead levels in surface soil is necessary.
3. The existing recontamination data indicates that a majority of exposure units being monitored currently are contaminated with lead at concentrations exceeding health-based action levels. This data supports the need to evaluate additional residential properties located within 1 mile of the facility for lead concentrations in soil.
4. In conjunction with the existing soil data, the current site-specific risk assessment data supports the need to take a response action to reduce potential exposure to residential lead-contaminated surface soil at the site.

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